

## Section Six – Collection, Analysis and Utilization of Safety Data

Regardless of size, transit agencies should be collecting and using safety data to manage risk. Management of risk should reduce injury to employees, damage to property, disruption of service, and ultimately loss of revenue. While safety is the responsibility of all transit agency employees, management of risk is the responsibility of the agency leadership. Management of risk requires a structured approach to help employees understand, identify and avoid potential risks. In other words risk management requires a plan. Understanding safety data will assist agency managers and staff in:

- ☐ Identifying safety trends and patterns in transit agency operations
- ☐ Guiding policy development
- ☐ Providing insights on current vulnerabilities
- ☐ Assisting in establishing priorities and allocations of resources
- ☐ Evaluating the success of safety programs and technologies
- ☐ Focusing personnel deployment.

The intent of this section on collection, analysis, and utilization of safety data is to assist the transit agency in the development and maintenance of a data driven safety plan. This task has two distinct sub-components: it is first necessary to identify the risk; then it is necessary to identify strategies for reducing the risk.

### A. Identifying the Risk:

To successfully reduce risk the director, transit supervisor and others in leadership, including the board of directors, must understand the nature of the risk(s) faced by the agency. They must then have the technical knowledge and expertise to identify and implement strategies for reducing the risk. Toward that end we recommend the following process.

#### A. Collection of Safety Data:

Every transit agency, regardless of size, must collect safety data. At a minimum this data should include:

1. Vehicle accident data
  - a. agency at fault (accident preventability determination)
  - b. other party at fault (accident preventability determination)
  - c. drugs/alcohol involved

2. Vehicle incident data
  - a. component failure
  - b. other (speeding, traffic violations, etc)
  - c. drugs/alcohol involved
3. Accidents at facilities
  - a. employees
  - b. passengers
  - c. drugs/alcohol involved
  - d. tools and equipment
4. Criminal Activity
  - a. Involving agency vehicles
  - b. At agency facilities and site
  - c. Near agency facilities and sites
  - d. Assaults on employees
  - e. Theft of agency property
  - f. Vandalism to agency property
  - g. Theft of passenger property on agency premises.
5. Passenger incidents and events
  - a. in agency vehicles
    1. while boarding
    2. while exiting
    3. while traveling on board
  - b. in agency facilities
    1. criminal incidents
    2. personal health incidents
    3. accidents
6. Vehicle safety inspection results.
7. Off duty employee incidents involving drugs or alcohol.
8. Associated cost to agency for accident/incident.

The transit agency will collect data on these elements as incidents occur. Included in the Appendices are sample incident reporting forms used by transit agencies in Texas. These are presented only to illustrate the type of data the transit agency will need to adequately evaluate each incident and collect the information noted above. The specific form or forms used for this purpose is not important, but must meet the agency's needs. Whether or not the incidents are grouped weekly, monthly, or quarterly will depend on the size of the agency.

A large agency with multimodal service will likely have a higher density of incident occurrence than will an on-call rural agency with one bus/van type vehicle. Regardless of these or others factors, the agency staff and leadership may identify the agency must structure its data collection around a time period. All but the largest agencies will probably use monthly or quarterly; the largest agencies will probably opt to use weekly. Incidents and accidents should be reported through the transit agency chain of command as they occur.

A formal process must be established for ensuring this data is actually collected and passed up the chain of command. This probably means a standardized reporting form (as noted in the Appendix) that can be easily completed and routed to the responsible agency official. In large agencies first line supervisors should be accountable for initiating these reports. In smaller agencies all employees should be required to initiate a report on any incident in which they are involved or have knowledge.

Data reports should be routed to the agency director or his/her designated representative. This person must be responsible for maintaining data files and report files. These may be kept either on paper or electronically and the director and the board of directors should establish policies for retaining files. The person responsible for maintaining files will, on a periodic basis, disseminate agency wide a summary of the safety data. This should include a report to the senior management of the transit agency and through the senior management to the board of directors.

The format in which data is disseminated will have an important impact on whether or not it is used. To circulate complete report forms will likely ensure that the data is not read. To format the data on a spread sheet showing the number of incidents occurring in the reporting period by category is probably the best approach. Normally this will allow displaying the data on one page with an accompanying narrative page and perhaps a summary spread sheet showing cumulative totals to date of the report. In the narrative it is important to point out any changes from previous reporting periods and cumulative trends.

Depending on the charge given to the person managing the data the narrative may also include recommendations for policy change/up-date based on any trends identified. Such recommendations, prepared by the director or a senior staff member, should accompany any submission to the board.

(See Appendix A and B for examples of reporting forms). (See Appendix C for examples of how to display safety data). (See Appendix D for an All Hazards Safety Checklist).

## B. The Plan:

While it is tempting to stop at this point the agency has only established a flow of safety data. To actually complete the data collection process the agency must also establish a structure for using that data to address safety issues and problems highlighted by the data. Listed below are a set of generic safety objectives that can serve as the outline of a plan:

- ☐ reduce costs associated with the occurrence of incidents and hazards (measured?)
- ☐ mitigate the effects of workplace hazards on personnel and property
- ☐ generate a standardized methodology for incident data collection
- ☐ develop a database for compiling a core set of incident characteristics
- ☐ report safety data that is practical and useful for the transit agency
- ☐ monitor and analyze accrued incident information
- ☐ compare safety statistics between similar transit agencies
- ☐ determine causal factors or trends for the purpose of reducing transit vehicle incidents
- ☐ identify and implement corrective actions
- ☐ collate incident data with prior safety data for the evaluation of corrective actions
- ☐ assess the effectiveness of specific training programs and safety related capital improvements.

Using these objectives as a guide the agency staff can build specific policies around each objective focusing on identification and management of risk. Strategies utilized may include employee training, providing necessary safety equipment, public awareness and education of passengers, and building relationships with other agencies.

A very significant strategy is leadership training for agency managers and supervisors to help them better understand their responsibilities. The data collected to support each objective provides a measure of how the agency is doing in implementing a safety program.

## APPENDIX A – EMPLOYEE ACCOUNT FORM EXAMPLE

Designed for Collecting and Employee's Account of an Incident/Accident

EMPLOYEE'S ACCOUNT
<p>Describe the Incident/Include details:</p> <p><i>Where did this occur:</i></p> <p>_____</p> <p><i>When did this occur:</i></p> <p>_____</p> <p><i>What were you doing just prior to the incident:</i></p> <p>_____</p> <p>_____</p> <p>_____</p> <p><i>How did this incident occur:</i></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p><i>How do you think this incident could have been prevented:</i></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>The above statement is true and correct to the best of my knowledge.</p> <p>Signature _____ Date ____/____/____ Time _____</p>

## APPENDIX B – SAMPLE VEHICLE INCIDENT REPORTING FORM



### TRANSIT VEHICLE INCIDENT REPORTING FORM

Form PTN-101  
(Rev. 7/2002)  
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TRANSIT AGENCY:	
Safety Contact Person:	
Area Code and Phone Number:	

#### REPORTABLE FOR THE FOLLOWING REASON(S)

Individual died	<input type="checkbox"/>	Transit vehicle is towed away and removed from revenue service	<input type="checkbox"/>
Injury requiring immediate medical treatment away from the scene	<input type="checkbox"/>	Non-arson fire	<input type="checkbox"/>
Total damage exceeded \$7,500	<input type="checkbox"/>		

DATE of INCIDENT:	INCIDENT TIME:	AM <input type="checkbox"/>	PM <input type="checkbox"/>
ESTIMATED TOTAL DAMAGE: \$	COUNTY:		
LOCATION:			
# OF FATALITIES:	# OF PERSONS TRANSPORTED FOR MEDICAL TREATMENT:		

#### AGENCY VEHICLE INFORMATION

LICENSE NO.:	MAKE:
YEAR:	MODEL:
ODOMETER READING:	FUNDING SOURCE:
ESTIMATED VEHICLE DAMAGE: \$	
DAMAGE DESCRIPTION:	
DID VEHICLE EQUIPMENT FAIL TO OPERATE PROPERLY? (IF YES, EXPLAIN ON THE FOLLOWING PAGE)	YES <input type="checkbox"/> NO <input type="checkbox"/>
WAS THE AGENCY VEHICLE TOTALED?	YES <input type="checkbox"/> NO <input type="checkbox"/>
WERE DRUG & ALCOHOL TESTS PERFORMED?	YES <input type="checkbox"/> NO <input type="checkbox"/>

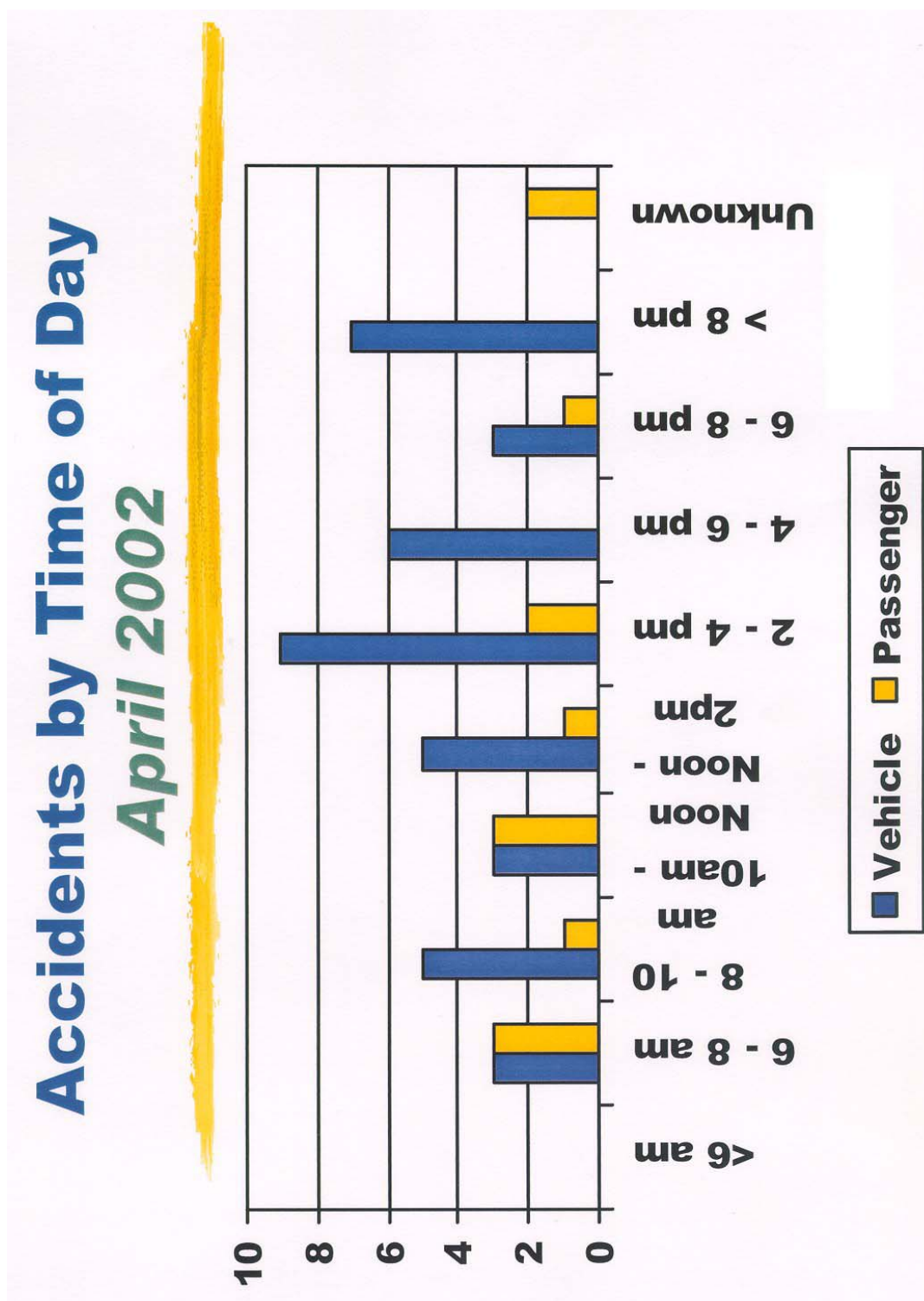
**Adopted from Texas department of Transportation Form.** In addition to the information requested on the form, attach the law enforcement incident/accident report (if applicable). If no law enforcement report is available provide a narrative description of the event and if applicable a sketch of the incident/accident. This form and all its associated annexes becomes the official transit agency report of the incident/accident.

7/06 Model Transit Program for: \_\_\_\_\_  
Transit Agency Name



## APPENDIX D-1 – SAMPLE APPROACHES TO DISPLAYING DATA

**NOTE:** Both of the graphs included in this appendix can be generated with basic computer software available to most transit agencies regardless of size. Using this approach to format data the transit agency wishes to highlight will make the data more noticeable and increase the likelihood that it will actually be looked at by policy makers.





## APPENDIX D-2 – SAMPLE APPROACHES TO DISPLAYING DATA

### Passenger Accidents by Accident Code *April 2002*

